Complete if Known Substitute for form 1449A/PTO Application Number 09/965,097 INFORMATION DISCLOSURE September 28, 2001 Filing Date First Named Inventor David F. Moore STATEMENT BY APPLICANT **Group Art Unit** 2673 (use as many sheets as necessary) **Examiner Name** Unassigned IMMR-007/01US of Attorney Docket Number Sheet Technology Center 2600

U.S. PATENT DOCUMENTS							
Examiner Initials*	Cite No.1	U.S. Patent Document  Number Kind Code <sup>2</sup> (if known)		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY		
Zw	A1	5,785,630		Bobick, et al.	07/28/1998		
1	A2	5,766,016	- 1	Sinclair et al.	06/16/1998		
	A3	5,547,382		Yamaşaki et al.	08/20/1996		
	A4	5,466,213		Hogan et al.	11/14/1995		
	A5	5,334,027		Wherlock	08/02/1994		
	A6	5,309,140		Everett, Jr., et al.	05/03/1994		
	A6	5,299,810		Pierce et al.	04/05/1994		
	A7	5,275,174	1	Cook	01/04/1994		
	A8	5,271,290	T	Fischer	12/21/1993		
i	A9	5,240,417		Smithson et al.	08/31/1993		
	A10	5,212,473		Louis	05/18/1993		
_	A11	5,078,152		Bond et al.	01/07/1992		
	A12	5,038,089		Szakaly	08/06/1991		
	A13	5,035,242		Franklin et al.	07/30/1991		
	A14	5,022,407		Horch et al.	06/11/1991		
	A15	5,019,761		Kraft	05/28/1991		
	A16	4,934,694		McIntosh	06/19/1990		
	A17	4,930,770		Baker	06/05/1990		
	A18	4,891,764		McIntosh	01/02/1990		
	A19	4,794,392		Selinko	12/27/1988		
	A20	4,713,007		Alban	12/15/1987		
	A21	4,708,656		de Vries et al.	11/24/1987		
	A22	4,599,070		Hladky et al.	07/08/1986		
	A23	4,581,491		Boothroyd	04/08/1986		
	A24	4,513,235		Acklam et al.	04/23/1985		
	A25	4,236,325		Hall et al.	12/02/1980		
	A26	4, 160,508		Salisbury, Jr.	07/10/1979		
	A27	3,911,416		Feder	10/07/1975		
	A28	3,903,614		Diamond et al.	09/09/1975		
	A29	3,902,687		Hightower	09/02/1975		
	A30	3,623,064		Kagan	11/23/1971		
	A31	3,517,446	1	Corlyon et al.	06/30/1970		
_	A31	3,497,668		Hirsch	02/24/1970		
-,	A33	3,220,121		Culter	11/30/1965		
NW	A34	3,157,853		Hirsch	11/17/1964		

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Detentor or Applicant of Cited	Date of Publication		
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)	Document	of Cited Document MM-DD-YYYY	T <sup>6</sup>	
Ku	B1	0	349 086	A1	Stork Kwant B.V.	01/03/1990		
	B2							

<sup>&</sup>lt;sup>1</sup> Unique citation designation number.

<sup>&</sup>lt;sup>2</sup> See attached Kinds of U.S. Patent Documents.

<sup>&</sup>lt;sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3).

<sup>&</sup>lt;sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

<sup>&</sup>lt;sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible.

<sup>&</sup>lt;sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Substitute	for form	1449A	/PTO

Sheet

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Compute if Known					
Application Number	09/965,097				
Filing Date	September 28, 2001	DEOFWER			
First Named Inventor	David F. Moore	HECEIVED			
Group Art Unit	2673				
Examiner Name	Unassigned	UCT <b>0</b> 1 2002			
Attorney Docket Number	IMMR-007/01US	_			

		OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS	
Examiner	Cite	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book,	T <sup>2</sup>
E ials	No.1	magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	
1/28	CI	Baigrie, "Electric Control Loading - A Low Cost, High Performance Alternative," Proceedings of Interservice/Industry	
2004 3	C2	Training Systems Conference, pp. 247-254, November 6-8, 1990  Iwata, "Pen-based Haptic Virtual Environment," 0-7803-1363-1/93 IEEE, pp. 287-292, 1993	
200	C3	Russo, "The Design and Implementation of a Three Degree of Freedom Force Output Joystick," MIT Libraries Archives	
ADEN PAT	C4	pp. 1-131, May 1990, archived 8/14/90  Brooks et al., "Hand Controllers for Teleoperation - A State-of-the-Art Technology Survey and Evaluation," JPL	
AUST		Publication 85-11, NASA-CR-175890; N85-28559, pp. 1-84, 03/1/1985	
	C5	Jones et al., "A perceptual analysis of stiffness," ISSN 0014-4819 Springer International (Springer-Verlag); Experimental Brain Research, Vol. 79, No. 1, pp. 150-156, 1990	
	C6	Burdea et al., "Distributed Virtual Force Feedback, Lecture Notes for Workshop on Force Display in Virtual Environments and its Application to Robotic Teleoperation," 1993 IEEE International Conference on Robotics and Automation, pp. 25-44, 05/02/1993	
	C7	Snow et al., 'Model-X Force-Reflecting-Hand-Controller," NT Control No. NPO-17851; JPL Case No. 7348, pp. 1-4 with 45 pages of attachments, 06/15/1989	
	C8	Ouh-Young, "Force Display in Molecular Docking," Doctoral Dissertation, University of North Carolina at Chapel Hill, UMI Order No. 9034744, p. 1-369, 1990	
	С9	Tadros, "Control System Design for a Three Degree of Freedom Virtual Environment Simulator Using Motor/Brake Pair Actuators," MIT Archive, pp. 1-88, February 1990, archived 8/13/90	
	C10	Caldwell et al., "Enhanced Tactile Feedback (Tele-Taction) Using a Multi-Functional Sensory System," 1050-4729/93, pp. 955-960, 1993	
	C11	Adelstein et al., "Design and Implementation of a Force Reflecting Manipulandum for Manual Control research," DSC-Vol. 42, Advances in Robotics, pp. 1-12, 1992	
	C12	Gotow et al., "Controlled Impedance Test Apparatus for Studying Human Interpretation of Kinesthetic Feedback," WA11-11:00, pp. 332-337	
	C13	Stanley et al., "Computer Simulation of Interacting Dynamic Mechanical Systems Using Distributed Memory Parallel Processors," DSC-Vol. 42, Advances in Robotics, pp. 55-61, ASME 1992	
	C14	Russo, "Controlling Dissipative Magnetic Particle Brakes in Force Reflective Devices," DSC-Vol. 42, Advances in Robotics, pp. 63-70, ASME 1992	
	C15	Kontarinis et al., "Display of High-Frequency Tactile Information to Teleoperators," Telemanipulator Technology and Space Telerobotics, Won S. Kim, Editor, Proc. SPIE Vol. 2057, pp. 40-50, Sep. 7-9, 1993	
	C16	Patrick et al., "Design and Testing of A Non-reactive, Fingertip, Tactile Display for Interaction with Remote Environments," Cooperative Intelligent Robotics in Space, Rui J. deFigueiredo et al, Editor, Proc. SPIE Vol. 1387, pp. 215-222, 1990	
	C17	Adelstein, "A Virtual Environment System For The Study of Human Arm Tremor," <i>Ph.D. Dissertation</i> , Dept. of Mechanical Engineering, MIT, June 1989, archived 3/13/90	
	C18	Bejczy, "Sensors, Controls, and Man-Machine Interface for Advanced Teleoperation," Science, Vol. 208, No. 4450, pp. 1327-1335, 1980	
	C19	Bejczy et al., "Generalization of Bilateral Force-Reflecting Control of Manipulators," Proceedings Of Fourth CISM-IFTOMM, Sep. 8-12, 1981	
	C20	McAffee et al., "Teleoperator Subsystem/Telerobot Demonstrator: Force Reflecting Hand Controller Equipment Manual," JPL 1988, JPL D-5172	
	C21	Minsky, "Computational Haptics: The Sandpaper System for Synthesizing Texture for a Force-Feedback Display," Ph.D. Dissertation, MIT, June 1995, archived 7/6/95	
	C22	Jacobsen et al., "High Performance, Dextrous Telerobotic Manipulator With Force Reflection," Intervention/ROV '91 Conference & Exposition, Hollywood, Florida, May 21-23, 1991	
	C23	Shimoga, "Finger Force and Touch Feedback Issues in Dexterous Telemanipulation," Proceedings of Fourth Annual Conference on Intelligent Robotic Systems for Space Exploration, Rensselaer Polytechnic Institute, Sep. 30-Oct. 1, 1992	
	C24	IBM Technical Disclosure Bulletin, "Mouse Ball-Actuating Device With Force and Tactile Feedback," Vol. 32, No. 9B,	
1	C25	February 1990  Terry et al., "Tactile Feedback In A Computer Mouse," Proceedings of Fourteenth Annual Northeast Bioengineering	
	C26	Conference, University of New Hampshire, March 10-11, 1988  Howe, "A Force-Relating Teleoperated Hand System for the Study of Tactile Sensing in Precision Manipulation,"	
<del>V</del> /	C27	Proceedings of the 1992 IEEE International Conference on Robotics and Automation, Nice, France, May 1992    Flowbardt et al. "OMAR. A Hastin display for greech persention by deef and deef blind individuals." IEEE Virtual	<del> </del>
yw	C27	Eberhardt et al., "OMAR - A Haptic display for speech perception by deaf and deaf-blind individuals," <i>IEEE Virtual Reality Annual International Symposium</i> , Seattle, WA, Sep. 18-22, 1993	

٠,			P E JCIS			
Sub	stitute for form 14	49A/PT(	SEP 2 7 2002 5		Complete if Known	
		1		Application Number	09/965,097	RECEIVED
IN	FORMATIC	ON DI	SCLOSURE 3	Filing Date	September 28, 2001	112021420
l si	<b>FATEMENT</b>	BY A	PPLICANT	First Named Inventor	David F. Moore	OCT 4-1-2002
,				Group Art Unit	2673	001 01 2002
	(use as many s	heets as	necessary)	Examiner Name	Unassigned	
Sheet	3	of	3	Attorney Docket Number	IMMR-007/01US	rechnology Center 2600

Xu	C28	Rabinowitz et al., "Multidimensional tactile displays: Identification of vibratory intensity, frequency, and contractor area," Journal of The Acoustical Society of America, Vol. 82, No. 4, October 1987	
	C29	Bejczy et al., "Kinesthetic Coupling Between Operator and Remote Manipulator," International Computer Technology  Conference, The American Society of Mechanical Engineers, San Francisco, CA, August 12-15, 1980	
	C30	Bejczy et al., "A Laboratory Breadboard System For Dual-Arm Teleoperation," SOAR '89 Workshop, JSC, Houston, TX, July 25-27, 1989	
	C31	Ouhyoung et al., "A Low-Cost Force Feedback Joystick and Its Use in PC Video Games," <i>IEEE Transactions on Consumer Electronics</i> , Vol. 41, No. 3, August 1995	
	C32	Marcus, "Touch Feedback in Surgery," Proceedings of Virtual Reality and Medicine The Cutting Edge, Sep. 8-11, 1994	
m	C33	Bejczy, et al., "Universal Computer Control System (UCCS) For Space Telerobots," CH2413-3/87/0000/0318501.00 1987 IEEE, 1987	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

148173 v1/RE 36BX01!.DOC

148166 v1/RE 36BQ01!.DOC

Unique citation designation number.
 Applicant is to place a check mark here if English language Translation attached.